

## TENT COOPERATION TREATY

PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>PE-39 35</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/BR 00/00105</b>	International filing date (day/month/year) <b>20/09/2000</b>	(Earliest) Priority Date (day/month/year) <b>20/09/1999</b>
Applicant  <b>EMPRESA BRASILEIRA DE COMPRESSORES S.A.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

4

☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/BR 00/00105

B x III TEXT OF THE ABSTRACT (Continuation of item 5 f th first sheet)

The abstract is changed as follows:

A method for controlling and protecting electric motors (10) provided with a rotor, specially permanent magnet motors electronically actuated by a control system (2) comprising a three-phase inverting bridge (5), characterized by being comprised of the step of counting a first period of time, during which said rotor should be between an original position and the next position, and the step of counting a second period of time that follows said first period of time, during which said rotor should pass through said next position.

The present invention is also expressed as a control system (2) for an electric motor (10) provided with a rotor, specially a permanent magnet motor, comprising a three-phase inverting bridge (5) and characterized by being additionally comprised of a microcontroller capable of analyzing the positions of the rotor as a function of the time, associated with a counter capable of carrying out the step of counting a first period of time, during which said rotor should be between an original position and the next position, and the stage of counting a second period of time that follows said first period of time, during which said rotor should pass through said next position, as well as an electric motor (1) comprising the control system (2).

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/BR 00/00105

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 H02P6/12

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 H02P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 532 461 A (CROOK JAMES C) 30 July 1985 (1985-07-30) column 1, line 29 - line 34; claims 1,2 column 5, line 35 - line 37 -----	1-6
A	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 02, 30 January 1998 (1998-01-30) -& JP 09 261991 A (FUJITSU GENERAL LTD), 3 October 1997 (1997-10-03) abstract -----	1-6

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

11 January 2001

Date of mailing of the international search report

22/01/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Roy, C

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/BR 00/00105

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4532461	A	30-07-1985	NONE	
JP 09261991	A	03-10-1997	NONE	

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/BR 00/00105

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H02P6/12

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H02P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 02, 30 January 1998 (1998-01-30) -& JP 09 261991 A (FUJITSU GENERAL LTD), 3 October 1997 (1997-10-03) abstract	1-6

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

11 January 2001

Date of mailing of the international search report

22/01/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Roy, C

# INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No

PCT/BR 00/00105

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4532461    A	30-07-1985	NONE	
JP 09261991    A	03-10-1997	NONE	

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 01 FEB 2002

WIPO

PCT

Applicant's or agent's file reference <b>PE-3935</b>	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. <b>PCT/BR 00/ 00105</b>	International filing date (day/month/year) <b>20/09/2000</b>	Priority date (day/month/year)
International Patent Classification (IPC) or national classification and IPC <b>H02P6/12</b>		
Applicant <b>EMPRESA BRASILEIRA DE COMPRESSORES S.A. ET AL</b>		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.


2. This **REPORT** consists of a total of 2 sheets, including this cover sheet.

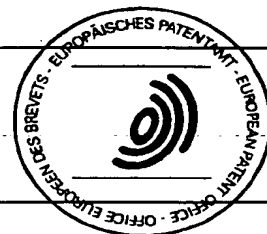
☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consists of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand <b>16/04/2001</b>	Date of completion of this report <b>25/01/2002</b>
Name and mailing address of the IPEA/  European Patent Office, Gitschiner Str. 103 D-10969 Berlin - Germany Tel.: (+49-30) 25901-0 Fax: (+49-30) 25901-840	Authorized officer <b>THOMAS K G</b>  Tel. (+49-89) 2399 2828



**I. Basis of report**

1. The basis of international preliminary examination report is the application as originally filed.

**III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

2. The question of whether the claimed invention appears to be novel, to involve an inventive step, or to be industrially applicable has not been and will not be the subject of the international preliminary examination (Article 34 (4) (a) (i) (ii) PCT; see also international search report) in respect of:

~~2.1 Applications having an unnecessary plurality of independent claims (generally not more than 1 independent claim in the same category is necessary; Article 6 PCT);~~

2.2 unsearched subject-matter (Article 17 (2) (a), Rule 66.1 (e) PCT).

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

3. To the extent that the international preliminary examination has been carried out (see item III above), the following is pointed out (Article 35 (2) and (3) (b) and Rule 70.7 and 70.8 (ii) PCT):

In light of the documents cited in the international search report, it is considered that the invention as claimed in the independent claims meets the criteria mentioned in Article 33 (1) PCT, i.e. it appears to be novel, to involve an inventive step and to be industrially applicable.



The demand must be filed directly with the one chosen by the applicant. The full name or two-letter code of that Authority may be indicated by the applicant on the line below:

IPEA/ EPO

# PCT

## CHAPTER II

### DEMAND

under Article 31 of the Patent Cooperation Treaty:  
The undersigned requests that the international application specified below be the subject of international preliminary examination according to the Patent Cooperation Treaty and hereby elects all eligible States (except where otherwise indicated).

For International Preliminary Examining Authority use only

Identification of IPEA		Date of receipt of DEMAND	
Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION		Applicant's or agent's file reference PE-3935	
International application No. PCT/BR00/00105	International filing date (day/month/year) 20 September 2000 (20.09.2000)	(Earliest) Priority date (day/month/year) 20 September 1999 (20.09.1999)	
Title of invention "A method for controlling and protecting electric motors, a system for controlling electric motors and an electric motor system"			
Box No. II APPLICANT(S)			
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) EMPRESA BRASILEIRA DE COMPRESSORES S.A. - EMBRACO Rua Rui Barbosa, 1020 89210-901 - Joinville, SC Brazil		Telephone No. (47) 441 -2740	
		Facsimile No. (47) 441-2548	
		Teleprinter No.	
		Applicant's registration No. with the Office	
State (that is, country) of nationality: BR		State (that is, country) of residence: BR	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) DAINEZ, PAULO SERGIO Rua Rui Barbosa, 1431 - aptº 302 Bloco I Joinville, SC Brazil			
State (that is, country) of nationality: BR		State (that is, country) of residence: BR	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) VON DOKONAL, LUIZ Rua Visconde de Mauá, 241 Joinville, SC Brazil			
State (that is, country) of nationality: (BR		State (that is, country) of residence: BR	
<input checked="" type="checkbox"/> Further applicants are indicated on a continuation sheet.			

## Continuation of Box No. II APPLICANT(S)

*If none of the following sub-boxes is used, this sheet should not be included in the demand.*

Name and address: (Family name followed by given name: for a legal entity, full official designation. The address must include postal code and name of country.)

SCHWARZ, MARCOS GUILHERME  
Rua General Osório, 257  
Joinville, SC  
Brazil

State (that is, country) of nationality:

BR

State (that is, country) of residence:

BR

Name and address: (Family name followed by given name: for a legal entity, full official designation. The address must include postal code and name of country.)

State (that is, country) of nationality:

State (that is, country) of residence:

Name and address: (Family name followed by given name: for a legal entity, full official designation. The address must include postal code and name of country.)

State (that is, country) of nationality:

State (that is, country) of residence:

Name and address: (Family name followed by given name: for a legal entity, full official designation. The address must include postal code and name of country.)

State (that is, country) of nationality:

State (that is, country) of residence:

☐ Further applicants are indicated on another continuation sheet.

**Box No. III AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE**The following person is ☒ agent ☐ common representativeand ☒ has been appointed earlier and represents the applicant(s) also for international preliminary examination.☐ is hereby appointed and any earlier appointment of (an) agent(s)/common representative is hereby revoked.☐ is hereby appointed, specifically for the procedure before the International Preliminary Examining Authority, in addition to the agent(s)/common representative appointed earlier.Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*DANNEMANN, SIEMSEN, BIGLER & IPANEMA MOREIRA  
Rua Marquês de Olinda, 70  
Botafogo  
22251-040 - Rio de Janeiro - RJ  
Brazil

Telephone No.

(5521) 553.1811

Facsimile No.

(5521) 553.1812  
553.1813

Teleprinter No.

Agent's registration No. with the Office

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.**Box No. IV BASIS FOR INTERNATIONAL PRELIMINARY EXAMINATION****Statement concerning amendments:\***

1. The applicant wishes the international preliminary examination to start on the basis of:

☒ the international application as originally filedthe description ☒ as originally filed☐ as amended under Article 34the claims ☒ as originally filed☐ as amended under Article 19 (together with any accompanying statement)☐ as amended under Article 34the drawings ☒ as originally filed☐ as amended under Article 342. ☐ The applicant wishes any amendment to the claims under Article 19 to be considered as reversed.3. ☐ The applicant wishes the start of the international preliminary examination to be postponed until the expiration of 20 months from the priority date unless the International Preliminary Examining Authority receives a copy of any amendments made under Article 19 or a notice from the applicant that he does not wish to make such amendments (Rule 69.1(d)). *(This check-box may be marked only where the time limit under Article 19 has not yet expired.)*

\* Where no check-box is marked, international preliminary examination will start on the basis of the international application as originally filed or, where a copy of amendments to the claims under Article 19 and/or amendments of the international application under Article 34 are received by the International Preliminary Examining Authority before it has begun to draw up a written opinion or the international preliminary examination report, as so amended.

Language for the purposes of international preliminary examination: English☒ which is the language in which the international application was filed.☐ which is the language of a translation furnished for the purposes of international search.☐ which is the language of publication of the international application.☐ which is the language of the translation (to be) furnished for the purposes of international preliminary examination.**Box No. V ELECTION OF STATES**The applicant hereby elects all eligible States *(that is, all States which have been designated and which are bound by Chapter II of the PCT)*

excluding the following States which the applicant wishes not to elect:

## Box No. VI CHECK LIST

The demand is accompanied by the following elements, in the language referred to in Box No. IV, for the purposes of international preliminary examination:

- |  |   |        |
|--|---|--------|
| 1. translation of international application                              | : | sheets |
| 2. amendments under Article 34   | : | sheets |
| 3. copy (or, where required, translation) of amendments under Article 19 | : | sheets |
| 4. copy (or, where required, translation) of statement under Article 19  | : | sheets |
| 5. letter  | : | sheets |
| 6. other ( <i>specify</i> )  | : | sheets |

For International Preliminary Examining Authority use only

received	not received
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<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

The demand is also accompanied by the item(s) marked below:

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> fee calculation sheet                             | 5. <input type="checkbox"/> statement explaining lack of signature     |
| 2. <input type="checkbox"/> original separate power of attorney                          | 6. <input type="checkbox"/> sequence listing in computer readable form |
| 3. <input type="checkbox"/> original general power of attorney                           | 7. <input type="checkbox"/> other ( <i>specify</i> ):                  |
| 4. <input type="checkbox"/> copy of general power of attorney; reference number, if any: |  |

## Box No. VII SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the demand).

  
Dannemann, Siemsen, Bigler & Ipanema Moreira

## For International Preliminary Examining Authority use only

1. Date of actual receipt of DEMAND:
2. Adjusted date of receipt of demand due to CORRECTIONS under Rule 60.1(b):
3. ☐ The date of receipt of the demand is AFTER the expiration of 19 months from the priority date and item 4 or 5, below, does not apply. ☐ The applicant has been informed accordingly.
4. ☐ The date of receipt of the demand is WITHIN the period of 19 months from the priority date as extended by virtue of Rule 80.5.
5. ☐ Although the date of receipt of the demand is after the expiration of 19 months from the priority date, the delay in arrival is EXCUSED pursuant to Rule 82.

## For International Bureau use only

Demand received from IPEA on:

## PCT

## FEE CALCULATION SHEET

## Annex to the Demand

International application No. <b>PCT/BR00/00105</b>	For International Preliminary Examining Authority use only			
Applicant's or agent's file reference <b>PE-3935</b>	Date stamp of the IPEA			
Applicant <b>EMPRESA BRASILEIRA DE COMPRESSORES S.A. - EMBRACO et al</b>				
<b>CALCULATION OF PRESCRIBED FEES</b>				
1. Preliminary examination fee .....	<b>DEM 749.58</b>	<div style="border: 1px solid black; width: 20px; height: 15px; display: flex; align-items: center; justify-content: center;">P</div>		
2. Handling fee ( <i>Applicants from certain States are entitled to a reduction of 75% of the handling fee. Where the applicant is (or all applicants are) so entitled, the amount to be entered at H is 25% of the handling fee.</i> ) .....	<b>DEM 287.51</b>	<div style="border: 1px solid black; width: 20px; height: 15px; display: flex; align-items: center; justify-content: center;">H</div>		
3. Total of prescribed fees Add the amounts entered at P and H and enter total in the TOTAL box .....	<div style="border: 1px solid black; padding: 2px;"> <b>DEM 1.037.09</b> </div> <div style="border: 1px solid black; padding: 2px; margin-top: 2px;"> <b>TOTAL</b> </div>			
<b>MODE OF PAYMENT</b>				
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> authorization to charge deposit account with the IPEA (see below)  <input type="checkbox"/> cheque  <input type="checkbox"/> postal money order  <input checked="" type="checkbox"/> bank draft         </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> cash  <input type="checkbox"/> revenue stamps  <input type="checkbox"/> coupons  <input type="checkbox"/> other (specify):         </td> </tr> </table>			<input type="checkbox"/> authorization to charge deposit account with the IPEA (see below) <input type="checkbox"/> cheque <input type="checkbox"/> postal money order <input checked="" type="checkbox"/> bank draft	<input type="checkbox"/> cash <input type="checkbox"/> revenue stamps <input type="checkbox"/> coupons <input type="checkbox"/> other (specify):
<input type="checkbox"/> authorization to charge deposit account with the IPEA (see below) <input type="checkbox"/> cheque <input type="checkbox"/> postal money order <input checked="" type="checkbox"/> bank draft	<input type="checkbox"/> cash <input type="checkbox"/> revenue stamps <input type="checkbox"/> coupons <input type="checkbox"/> other (specify):			
<b>AUTHORIZATION TO CHARGE (OR CREDIT) DEPOSIT ACCOUNT</b> <i>(This mode of payment may not be available at all IPEAs)</i>				
<input type="checkbox"/> Authorization to charge the total fees indicated above.  <input type="checkbox"/> <i>(This check-box may be marked only if the conditions for deposit accounts of the IPEA so permit)</i> Authorization to charge any deficiency or credit any overpayment in the total fees indicated above.		IPEA/ _____ Deposit Account No.: _____ Date: _____ Name: _____ Signature: _____		

# PATENT COOPERATION TREATY

DANNEMANN, SIEMSEN  
& IPANEMA MOREIRA

From the INTERNATIONAL SEARCHING AUTHORITY

**2 PCT** 5 E

To:

DANNEMANN, SIEMSEN, BIGLER  
& IPANEMA MOREIRA  
Rua Marquês de Olinda, 70  
Botafogo  
22251-040 - Rio de Janeiro - RJ  
BRAZIL

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT  
OR THE DECLARATION

(PCT Rule 44.1)

<p>Date of mailing (day/month/year) <b>22/01/2001</b></p>	
<p>Applicant's or agent's file reference <b>PE-39 35</b></p>	<p><b>FOR FURTHER ACTION</b>      See paragraphs 1 and 4 below</p>
<p>International application No. <b>PCT/BR 00/ 00105</b></p>	<p>International filing date (day/month/year) <b>20/09/2000</b></p>
<p>Applicant <b>EMPRESA BRASILEIRA DE COMPRESSORES S.A.</b></p>	

1. ☒ The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

**When?** The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

**Where?** Directly to the      International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland  
Facsimile No.: (41-22) 740.14.35

**For more detailed instructions, see the notes on the accompanying sheet.**

2. ☐ The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ **With regard to the protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.


☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):** The applicant is reminded of the following:

Shortly after **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

Within **19 months** from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within **20 months** from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

<p>Name and mailing address of the International Searching Authority</p> <div style="text-align: center;">  </div> <p>European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016</p>	<p>Authorized officer</p> <p style="text-align: center;"><b>Cornelia Schulze</b></p>
---	--

*Flaminge*

## NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions respectively.

### INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

#### What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

#### When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

#### Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

#### How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

#### What documents must/may accompany the amendments?

##### Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

## NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:  
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:  
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:  
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or  
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:  
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

### "Statement under article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

### Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

### Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, where upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.



## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference PE-39 35	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/BR 00/00105	International filing date (day/month/year) 20/09/2000	(Earliest) Priority Date (day/month/year) 20/09/1999
Applicant EMPRESA BRASILEIRA DE COMPRESSORES S.A.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

4

☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/BR 00/00105

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4532461     A	30-07-1985	NONE	
JP 09261991     A	03-10-1997	NONE	

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/BR 00/00105

## Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

The abstract is changed as follows:

A method for controlling and protecting electric motors (10) provided with a rotor, specially permanent magnet motors electronically actuated by a control system (2) comprising a three-phase inverting bridge (5), characterized by being comprised of the step of counting a first period of time, during which said rotor should be between an original position and the next position, and the step of counting a second period of time that follows said first period of time, during which said rotor should pass through said next position.

The present invention is also expressed as a control system (2) for an electric motor (10) provided with a rotor, specially a permanent magnet motor, comprising a three-phase inverting bridge (5) and characterized by being additionally comprised of a microcontroller capable of analyzing the positions of the rotor as a function of the time, associated with a counter capable of carrying out the step of counting a first period of time, during which said rotor should be between an original position and the next position, and the stage of counting a second period of time that follows said first period of time, during which ~~said rotor should pass through said next position, as well as an electric motor~~ (1) comprising the control system (2).

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/BR 00/00105

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 H02P6/12

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H02P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 532 461 A (CROOK JAMES C) 30 July 1985 (1985-07-30) column 1, line 29 - line 34; claims 1,2 ✓ column 5, line 35 - line 37 ----	1-6
A	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 02, 30 January 1998 (1998-01-30) -& JP 09 261991 A (FUJITSU GENERAL LTD), ✓ 3 October 1997 (1997-10-03) abstract -----	1-6



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

11 January 2001

Date of mailing of the international search report

22/01/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Roy, C

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To:

DANNEMANN, SIEMSEN, BIGLER  
& IPANEMA MOREIRA  
Rua Marquês de Olinda, 70  
Botafogo  
22251-040 - Rio de Janeiro - RJ  
BRESIL

NOTIFICATION OF TRANSMITTAL OF  
INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT

VORAB  
BY FAX

(PCT Rule 71.4)  
28. 01. 02

Date of mailing  
(day/month/year)

30/01/2002

2501

Applicant's or agent's file reference

PE-3935

## IMPORTANT NOTIFICATION

International application No.

PCT/ BR 00/ 00105

International filing date (day/month/year)

20/09/2000

Priority date (day/month/year)

Applicant

~~EMPRESA BRASILEIRA DE COMPRESSORES S.A. ET AL~~

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/

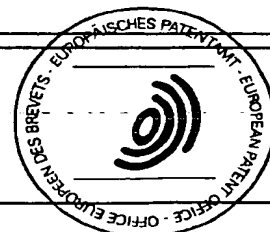


European Patent Office, Gitschiner Str. 103  
D-10969 Berlin - Germany  
Tel.: (+49-30) 25901-0  
Fax: (+49-30) 25901-840

Authorized officer

TSOGKA P

Tel. (+49-89) 2399 2828




## PCT

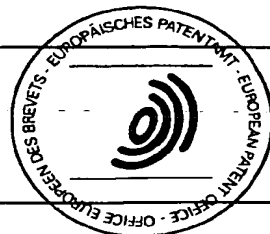
## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>PE-3935</b>	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. <b>PCT/ BR 00/ 00105</b>	International filing date ( <i>day/month/year</i> ) <b>20/09/2000</b>	Priority date ( <i>day/month/year</i> )
International Patent Classification (IPC) or national classification and IPC <b>H02P6/12</b>		
Applicant <b>EMPRESA BRASILEIRA DE COMPRESSORES S.A. ET AL</b>		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This <b>REPORT</b> consists of a total of <u>2</u> sheets, including this cover sheet.  <input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  These annexes consists of a total of _____ sheets.
3. This report contains indications relating to the following items:  I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input checked="" type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement  VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand <b>16/04/2001</b>	Date of completion of this report <b>25/01/2002</b>
Name and mailing address of the IPEA/  European Patent Office, Gitschiner Str. 103 D-10969 Berlin - Germany Tel.: (+49-30) 25901-0 Fax: (+49-30) 25901-840	Authorized officer <b>THOMAS K. G</b>  Tel. (+49-89) 2399 2828



**I. Basis of report**

1. The basis of international preliminary examination report is the application as originally filed.

**III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

2. The question of whether the claimed invention appears to be novel, to involve an inventive step, or to be industrially applicable has not been and will not be the subject of the international preliminary examination (Article 34 (4) (a) (i) (ii) PCT; see also international search report) in respect of:

---

2.1 Applications having an unnecessary plurality of independent claims (generally not more than 1 independent claim in the same category is necessary; Article 6 PCT);

2.2 unsearched subject-matter (Article 17 (2) (a), Rule 66.1 (e) PCT).

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

3. To the extent that the international preliminary examination has been carried out (see item III above), the following is pointed out (Article 35 (2) and (3) (b) and Rule 70.7 and 70.8 (ii) PCT):

In light of the documents cited in the international search report, it is considered that the invention as claimed in the independent claims meets the criteria mentioned in Article 33 (1) PCT, i.e. it appears to be novel, to involve an inventive step and to be industrially applicable.

# PCT

## REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only  
**EST/BR 00/00105**

International Application No.

**20 SET 2000 21-9-00**

International Filing Date

**INPI, BRAZIL - PCT INTERNATIONAL APPLICATION**

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference  
(if desired) (12 characters maximum)

**PE-3935**

**Box No. I TITLE OF INVENTION**

"A method for controlling and protecting electric motors, a system for controlling electric motors and an electric motor system"

**Box No. II APPLICANT**

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

**EMPRESA BRASILEIRA DE COMPRESSORES S.A. -  
EMBRACO  
Rua Rui Barbosa, 1020  
89210-901- Joinville, SC  
Brazil**

☐ This person is also inventor.

Telephone No.

**(47) 441 - 2740**

Facsimile No.

**(47) 441 - 2548**

Teleprinter No.

State (that is, country) of nationality:

**BR**

State (that is, country) of residence:

**BR**

This person is applicant for the purposes of:

☐

all designated States

☒

all designated States except the United States of America

☐

the United States of America only

☐

the States indicated in the Supplemental Box

**Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)**

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

**DAINEZ, PAULO SERGIO  
Rua Rui Barbosa, 1431 - aptº 302  
Bloco I  
Joinville, SC  
Brazil**

This person is:

☐ applicant only

☒ applicant and inventor

☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

**BR**

State (that is, country) of residence:

**BR**

This person is applicant for the purposes of:

☐

all designated States

☐

all designated States except the United States of America

☒

the United States of America only

☐

the States indicated in the Supplemental Box

☒ Further applicants and/or (further) inventors are indicated on a continuation sheet.

**Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE**

The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:

☒

agent

☐

common representative

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

**DANNEMANN, SIEMSEN, BIGLER & IPANEMA MOREIRA  
Rua Marquês de Olinda, 70  
Botafogo  
22251-040 - Rio de Janeiro - RJ  
Brazil**

Telephone No.

**(5521) 553.1811**

Facsimile No.

**(5521) 553.1812  
553.1813**

Teleprinter No.

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.



PCT/RO/00/00105

Continuation of Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

If none of the following sub-boxes is used, this sheet should not be included in the request.

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

VON DOKONAL, LUIZ  
Rua Visconde de Mauá, 241  
Joinville, SC  
Brazil

This person is:

- ☐ applicant only  
☒ applicant and inventor  
☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

BR

State (that is, country) of residence:

BR

This person is applicant for the purposes of:

- ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

SCHWARZ, MARCOS GUILHERME  
Rua General Osório, 257  
Joinville, SC  
Brazil

This person is:

- ☐ applicant only  
☒ applicant and inventor  
☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

BR

State (that is, country) of residence:

BR

This person is applicant for the purposes of:

- ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

- ☐ applicant only  
☐ applicant and inventor  
☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of:

- ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

- ☐ applicant only  
☐ applicant and inventor  
☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of:

- ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

☐ Further applicants and/or (further) inventors are indicated on another continuation sheet.

## Box No.V DESIGNATION OF STATES

PCT/RO 00/00105

The following designations are hereby made under Rule 4.9(a) (mark the applicable check-boxes; at least one must be marked):

## Regional Patent

- ☐ AP ARIPO Patent: GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, MZ Mozambique, SD Sudan, SL Sierra Leone, SZ Swaziland, TZ United Republic of Tanzania, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☐ EA Eurasian Patent: AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ EP European Patent: AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, CY Cyprus, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☐ OA OAPI Patent: BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line)

## National Patent (if other kind of protection or treatment desired, specify on dotted line):

- |   |   |
|---|---|
| <input type="checkbox"/> AE United Arab Emirates                  | <input type="checkbox"/> LC Saint Lucia                               |
| <input type="checkbox"/> AG Antigua and Barbuda                   | <input type="checkbox"/> LK Sri Lanka                                 |
| <input type="checkbox"/> AL Albania                               | <input type="checkbox"/> LR Liberia                                   |
| <input type="checkbox"/> AM Armenia                               | <input type="checkbox"/> LS Lesotho                                   |
| <input type="checkbox"/> AT Austria                               | <input type="checkbox"/> LT Lithuania                                 |
| <input type="checkbox"/> AU Australia                             | <input type="checkbox"/> LU Luxembourg                                |
| <input type="checkbox"/> AZ Azerbaijan                            | <input type="checkbox"/> LV Latvia                                    |
| <input type="checkbox"/> BA Bosnia and Herzegovina                | <input type="checkbox"/> MA Morocco                                   |
| <input type="checkbox"/> BB Barbados                              | <input type="checkbox"/> MD Republic of Moldova                       |
| <input type="checkbox"/> BG Bulgaria                              | <input type="checkbox"/> MG Madagascar                                |
| <input type="checkbox"/> BR Brazil                                | <input type="checkbox"/> MK The former Yugoslav Republic of Macedonia |
| <input type="checkbox"/> BY Belarus                               | <input type="checkbox"/> MN Mongolia                                  |
| <input type="checkbox"/> BZ Belize                                | <input type="checkbox"/> MW Malawi                                    |
| <input type="checkbox"/> CA Canada                                | <input type="checkbox"/> MX Mexico                                    |
| <input type="checkbox"/> CH and LI Switzerland and Liechtenstein  | <input type="checkbox"/> MZ Mozambique                                |
| <input checked="" type="checkbox"/> CN China                      | <input type="checkbox"/> NO Norway                                    |
| <input type="checkbox"/> CR Costa Rica                            | <input type="checkbox"/> NZ New Zealand                               |
| <input type="checkbox"/> CU Cuba                                  | <input type="checkbox"/> PL Poland                                    |
| <input type="checkbox"/> CZ Czech Republic                        | <input type="checkbox"/> PT Portugal                                  |
| <input type="checkbox"/> DE Germany                               | <input type="checkbox"/> RO Romania                                   |
| <input type="checkbox"/> DK Denmark                               | <input type="checkbox"/> RU Russian Federation                        |
| <input type="checkbox"/> DM Dominica                              | <input type="checkbox"/> SD Sudan                                     |
| <input type="checkbox"/> DZ Algeria                               | <input type="checkbox"/> SE Sweden                                    |
| <input type="checkbox"/> EE Estonia                               | <input checked="" type="checkbox"/> SG Singapore                      |
| <input type="checkbox"/> ES Spain                                 | <input type="checkbox"/> SI Slovenia                                  |
| <input type="checkbox"/> FI Finland                               | <input type="checkbox"/> SK Slovakia                                  |
| <input type="checkbox"/> GB United Kingdom                        | <input type="checkbox"/> SL Sierra Leone                              |
| <input type="checkbox"/> GD Grenada                               | <input type="checkbox"/> TJ Tajikistan                                |
| <input type="checkbox"/> GE Georgia                               | <input type="checkbox"/> TM Turkmenistan                              |
| <input type="checkbox"/> GH Ghana                                 | <input checked="" type="checkbox"/> TR Turkey                         |
| <input type="checkbox"/> GM Gambia                                | <input type="checkbox"/> TT Trinidad and Tobago                       |
| <input type="checkbox"/> HR Croatia                               | <input type="checkbox"/> TZ United Republic of Tanzania               |
| <input type="checkbox"/> HU Hungary                               | <input type="checkbox"/> UA Ukraine                                   |
| <input type="checkbox"/> ID Indonesia                             | <input type="checkbox"/> UG Uganda                                    |
| <input type="checkbox"/> IL Israel                                | <input checked="" type="checkbox"/> US United States of America       |
| <input type="checkbox"/> IN India                                 | <input type="checkbox"/> UZ Uzbekistan                                |
| <input type="checkbox"/> IS Iceland                               | <input type="checkbox"/> VN Viet Nam                                  |
| <input checked="" type="checkbox"/> JP Japan                      | <input type="checkbox"/> YU Yugoslavia                                |
| <input type="checkbox"/> KE Kenya                                 | <input type="checkbox"/> ZA South Africa                              |
| <input type="checkbox"/> KG Kyrgyzstan                            | <input type="checkbox"/> ZW Zimbabwe                                  |
| <input type="checkbox"/> KP Democratic People's Republic of Korea |   |
| <input checked="" type="checkbox"/> KR Republic of Korea          |   |
| <input type="checkbox"/> KZ Kazakhstan                            |   |

Check-box reserved for designating States which have become party to the PCT after issuance of this sheet:

☐

**Precautionary Designation Statement:** In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation (including fees) must reach the receiving Office within the 15-month time limit.)

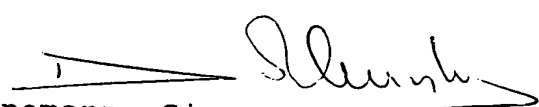
Box No. VI PRIORITY CLAIM				
Filing date of earlier application (day/month/year)	Number of earlier application	<input type="checkbox"/> Further priority claims are indicated in the Supplemental Box. Where earlier application is:		
		national application: country	regional application: * regional Office	international application: receiving Office
item (1) 20 September 1999 (20.09.99)	PI 9904253-3	BR		
item (2)				
item (3)				

☒ The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of the present international application is the receiving Office) identified above as item(s): 1

\* Where the earlier application is an ARIPO application, it is mandatory to indicate in the Supplemental Box at least one country party to the Paris Convention for the Protection of Industrial Property for which that earlier application was filed (Rule 4.10(b)(ii)). See Supplemental Box.

Box No. VII INTERNATIONAL SEARCHING AUTHORITY			
Choice of International Searching Authority (ISA) (if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used):		Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority):	
ISA / EPO		Date (day/month/year)	Number Country (or regional Office)

Box No. VIII CHECK LIST; LANGUAGE OF FILING	
This international application contains the following number of sheets: request : 4 description (excluding sequence listing part) : 5 claims : 2 abstract : 1 drawings : 3 sequence listing part of description : - Total number of sheets : 15	This international application is accompanied by the item(s) marked below: 1. <input checked="" type="checkbox"/> fee calculation sheet 2. <input checked="" type="checkbox"/> separate signed power of attorney 3. <input type="checkbox"/> copy of general power of attorney; reference number, if any: 4. <input type="checkbox"/> statement explaining lack of signature 5. <input type="checkbox"/> priority document(s) identified in Box No. VI as item(s): 6. <input type="checkbox"/> translation of international application into (language): 7. <input type="checkbox"/> separate indications concerning deposited microorganism or other biological material 8. <input type="checkbox"/> nucleotide and/or amino acid sequence listing in computer readable form 9. <input checked="" type="checkbox"/> other (specify): inventors' assignment
Figure of the drawings which should accompany the abstract: 4	Language of filing of the international application: English

Box No. IX SIGNATURE OF APPLICANT OR AGENT	
Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).	
 Dannemann, Siemsen, Bigler & Ipanema Moreira	

1. Date of actual receipt of the purported international application: <b>20 SET 2000 24-9-00</b>		2. Drawings: <input type="checkbox"/> received:  <input type="checkbox"/> not received:
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:		
4. Date of timely receipt of the required corrections under PCT Article 11(2):		
5. International Searching Authority (if two or more are competent): ISA /	6. <input type="checkbox"/> Transmittal of search copy delayed until search fee is paid.	

Date of receipt of the record copy by the International Bureau:	For International Bureau use only
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# PCT

## FEE CALCULATION SHEET Annex to the Request

For receiving Office use only

PCT/BR 00/00105  
International application No.

Applicant's or agent's  
file reference

PE-3935

Date stamp of the receiving Office

Applicant

EMPRESA BRASILEIRA DE COMPRESSORES S.A. - EMBRACO

### CALCULATION OF PRESCRIBED FEES

1. TRANSMITTAL FEE . . . . . 236,00 T

2. SEARCH FEE DEM 462.07 x 0.811392 . . . . . S

International search to be carried out by EPO

(If two or more International Searching Authorities are competent in relation to the international application, indicate the name of the Authority which is chosen to carry out the international search.)

### INTERNATIONAL FEE

#### Basic Fee

The international application contains 15 sheets.

first 30 sheets CHF 650 x 1.04042 . . . . . 676,27 b1

remaining sheets x additional amount = - b2

Add amounts entered at b1 and b2 and enter total at B . . . . . 676,27 B

#### Designation Fees

The international application contains 7 designations.

7 x CHF 140 x 1.04042 = 1.695,61 D

number of designation fees payable (maximum 8) amount of designation fee

Add amounts entered at B and D and enter total at I . . . . . 1.695,88 I

(Applicants from certain States are entitled to a reduction of 75% of the international fee. Where the applicant is (or all applicants are) so entitled, the total to be entered at I is 25% of the sum of the amounts entered at B and D.)

4. FEE FOR PRIORITY DOCUMENT (if applicable) . . . . . 75,00 P

5. TOTAL FEES PAYABLE . . . . . R\$ 2381,79

Add amounts entered at T, S, I and P, and enter total in the TOTAL box

TOTAL

☐ The designation fees are not paid at this time.

### MODE OF PAYMENT

☐ authorization to charge  
deposit account (see below)

☐ cheque

☐ postal money order

☐ bank draft

☒ cash

☐ revenue stamps

☐ coupons

☐ other (specify):

### DEPOSIT ACCOUNT AUTHORIZATION (this mode of payment may not be available at all receiving Offices)

The RO/ ☐ is hereby authorized to charge the total fees indicated above to my deposit account.

☐ (this check-box may be marked only if the conditions for deposit accounts of the receiving Office so permit) is hereby authorized to charge any deficiency or credit any overpayment in the total fees indicated above to my deposit account.

☐ is hereby authorized to charge the fee for preparation and transmittal of the priority document to the International Bureau of WIPO to my deposit account.

Deposit Account No.

Date (day/month/year)

Signature

# PCT

## FEE CALCULATION SHEET

Ann x to the Request

For receiving Office use only

PCT/BR 00/00105

International application No.

Applicant's or agent's  
file reference PE-3935

Date stamp of the receiving Office

Applicant

EMPRESA BRASILEIRA DE COMPRESSORES S.A. - EMBRACO

### CALCULATION OF PRESCRIBED FEES

1. TRANSMITTAL FEE . . . . . 236,00 T

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Add amounts entered at b1 and b2 and enter total at B . . . . . 676,27 B

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4. FEE FOR PRIORITY DOCUMENT (if applicable) . . . . . 75,00 P

5. TOTAL FEES PAYABLE . . . . . R\$ 2381,79

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TOTAL

☐ The designation fees are not paid at this time.

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☐ authorization to charge  
deposit account (see below)

☐ cheque

☐ postal money order

☐ bank draft

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☐ coupons

☐ other (specify):

### DEPOSIT ACCOUNT AUTHORIZATION (this mode of payment may not be available at all receiving Offices)

The RO/ ☐ is hereby authorized to charge the total fees indicated above to my deposit account.

☐ (this check-box may be marked only if the conditions for deposit accounts of the receiving Office so permit) is hereby authorized to charge any deficiency or credit any overpayment in the total fees indicated above to my deposit account.

☐ is hereby authorized to charge the fee for preparation and transmittal of the priority document to the International Bureau of WIPO to my deposit account.

Deposit Account No.

Date (day/month/year)

Signature

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner  
US Department of Commerce  
United States Patent and Trademark  
Office, PCT  
2011 South Clark Place Room  
CP2/5C24  
Arlington, VA 22202  
ETATS-UNIS D'AMERIQUE  
in its capacity as elected Office

Date of mailing (day/month/year) 29 May 2001 (29.05.01)	
International application No. PCT/BR00/00105	Applicant's or agent's file reference PE-3935
International filing date (day/month/year) 20 September 2000 (20.09.00)	Priority date (day/month/year) 20 September 1999 (20.09.99)
Applicant DAINEZ, Paulo, Sergio et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

16 April 2001 (16.04.01)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Olivia TEFY Telephone No.: (41-22) 338.83.38
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## INTERNATIONAL COOPERATION TREATY

PCT

NOTIFICATION OF RECEIPT OF  
RECORD COPY

(PCT Rule 24.2(a))

From the INTERNATIONAL BUREAU

To:

DANNEMANN, SIEMSEN, BIGLER &  
IPANEMA MOREIRA  
Rua Marquês de Olinda, 70  
Botafogo  
CEP-22251-040 Rio de Janeiro, RJ  
BRÉSIL

Date of mailing (day/month/year) 08 November 2000 (08.11.00)	<b>IMPORTANT NOTIFICATION</b>
Applicant's or agent's file reference PE-3935	International application No. PCT/BR00/00105

The applicant is hereby notified that the International Bureau has received the record copy of the international application as detailed below.

Name(s) of the applicant(s) and State(s) for which they are applicants:

EMPRESA BRASILEIRA DE COMPRESSORES S.A. - EMBRACO (for all designated States  
except US)

DAINEZ, Paulo, Sergio et al (for US)

International filing date : 20 September 2000 (20.09.00)  
Priority date(s) claimed : 20 September 1999 (20.09.99)  
Date of receipt of the record copy  
by the International Bureau : 25 October 2000 (25.10.00)  
List of designated Offices :

EP : AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE  
National : CN, JP, KR, SG, TR, US

**ATTENTION**

The applicant should carefully check the data appearing in this Notification. In case of any discrepancy between these data and the indications in the international application, the applicant should immediately inform the International Bureau.

In addition, the applicant's attention is drawn to the information contained in the Annex, relating to:

- ☒ time limits for entry into the national phase  
☒ confirmation of precautionary designations  
☒ requirements regarding priority documents

A copy of this Notification is being sent to the receiving Office and to the International Searching Authority.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer:  Eugénia Santos
Facsimile No. (41-22) 740.14.35	Telephone No. (41-22) 338.83.38